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## **INTRODUCTION**

An increasing number of US soldiers are returning from combat with cognitive deficiencies secondary to traumatic brain injuries, post-traumatic stress disorder, and/or polytrauma, which has made self-management of their complex medication regimens through traditional means both difficult and dangerous. The purpose of the continuation of this study is twofold: 1. To compare usual medication delivery methods (medications dispensed in pill bottles) with a FDA cleared telepharmacy robotic medication delivery unit (TRMDU) that delivers individual doses of medication at the scheduled times and in the prescribed dosages. 2. To develop the methodology and expertise to securely interface the TRMDU's remote medication management system and electronic medication administration record (eMAR) into the NHIN.

## **BODY**

### **GOALS:**

INRange Systems, Inc. intention is to have a fully functional inbound interface to the CONNECT Gateway upon completion of the project. INRange also expects to advance the efforts towards completion of the outbound interface, which will depend on the cooperation of the CDE and the VA test environment.

In addition, we expect to be prepared to receive demographic and prescription information from any source available in the gateway.

Finally, we expect to have the EMMA<sup>®</sup> software modified to support the outbound transmission of adherence related data to the gateway.

### **TECHNICAL OBJECTIVES:**

1. Develop an interface between the EHR and the INRange EMMA unit via the Nationwide Health Information Network (NHIN).
2. Contribute to the patient's continuation of care by making the electronic Medication Administration Record (eMAR) data available, nationally and globally, to the healthcare industry.

## **KEY RESEARCH ACCOMPLISHMENTS**

The project was divided in two phases, with the first phase being the development of the inbound interface to get demographic and prescription information from the CONNECT Gateway into our EMMA system to eliminate the need of double data entry.

In order to have access to the Common Development Environment (CDE) from the military Armed Forces Health Longitudinal Technology Application (AHLTA)/CHCS systems, we were required to have certain level of security clearance (ADP) and we submitted the SF86 for our developer in Feb2011. After a few months of wait, we were informed that the process would take too long, probably beyond the duration of this project and TATRC suggested to use the local version of AHLTA CTS and PAWS systems.

After obtaining a copy of those local systems, we were able to install and configure local servers to use those systems instead of the CDE.

It has been an extremely challenging project. There have been multiple delays due to problems during installation of the CONNECT Gateway in our servers both in the Windows and the Linux environments.

The problems were finally solved with the help from the NHIN forums but then there was an update to the Gateway system and during the update the problems came back but we were able to solve those problems again.

Currently we have a functional Gateway, functional local AHLTA CTS and PAWS systems and we are in the process of building the adapter to exchange the data.

We have recently learned, during the latest meeting at TATRC, that some of the data that we need, is not available in the version of PAWS and AHLTA that we have. We were advised to contact TATRC developers to request a modification to those test systems to make that information available.

#### **REPORTABLE OUTCOMES**

We are in the process of creating a list of all data components that we need to submit to TATRC to ensure that all information is available in the test systems. At this time there are not any reportable outcomes.

#### **CONCLUSION**

The development of a universal eMAR is of the outmost importance for the benefit of patients. Currently healthcare providers do not know if patient are indeed taking their medications as prescribed and many time make decisions based only on the available information causing potentially hazardous situations to patients due to medication errors. The completion of this project will bring us closer to a more accurate medication prescription process in the continuation of care.

#### **REFERENCES**

N/A.

#### **APPENDICES**

None.